



Space Systems Acquisition Policy/Guidance Rapid Deployment Training (RDT)

Implementation of Interim DoDI 5000.02

for Space Systems Acquisition Interim DoDI 5000.02, Operation of the Defense Acquisition System, November 26, 2013

Revised to create acquisition policy
environment that will achieve greater
efficiency and productivity and
effectively implement Better Buying
Power (BBP) initiatives

- Final DoDI 5000.02 due in 180 days (May 26, 2014)

- Cancels December 2008 version of DoDI 5000.02 and is effective immediately
- Cancels Directive-Type Memorandum (DTM) 09-025, Space Systems Acquisition Policy, October 18, 2010

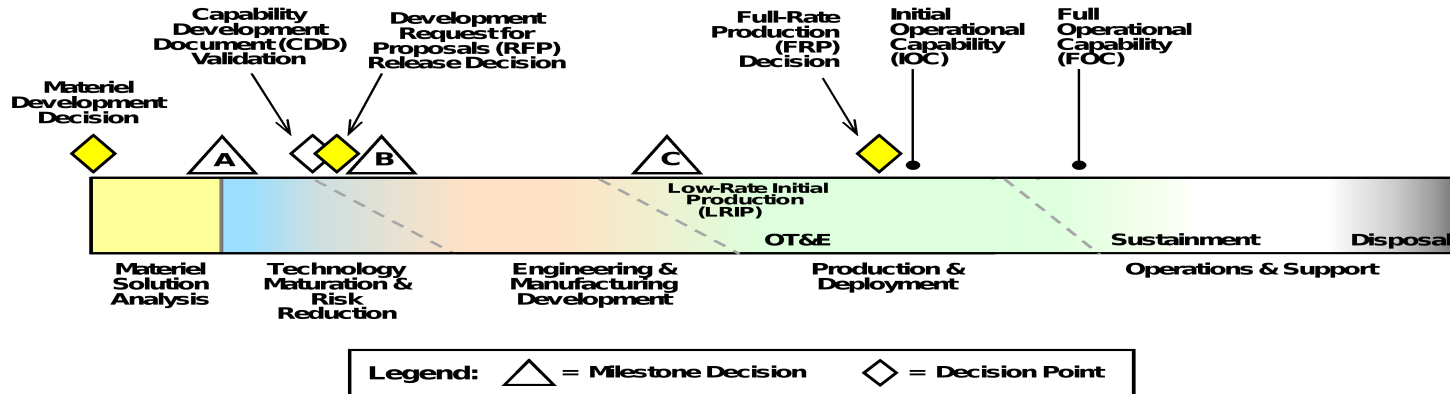
Interim DoDI 5000.02 (Space Systems Acquisition Chapter 1) captures much of
(currently in draft) captures much of

Implementation of Interim DoDI 5000.02

for Space Systems Acquisition
**Interim DoDI 5000.02 addresses space
systems in a couple areas:**

1) Page 26, "(b) High-Cost First Article Combined Milestone B and C Decisions. Some programs, notably **spacecraft and ships, will not produce prototypes during EMD for use solely as test articles because of the very high cost of each article. In this case, the **first articles** produced will be tested and then fielded as **operational assets**. These programs may be tailored by measures such as **combining the development and initial production investment commitments**. When this is the case, a combined Milestone B and C will be conducted. Additional decision points with appropriate criteria may also be established for subsequent low rate production commitments that occur prior to OT&E and a Full Rate Production Decision."**

Model 1: Hardware Intensive Program



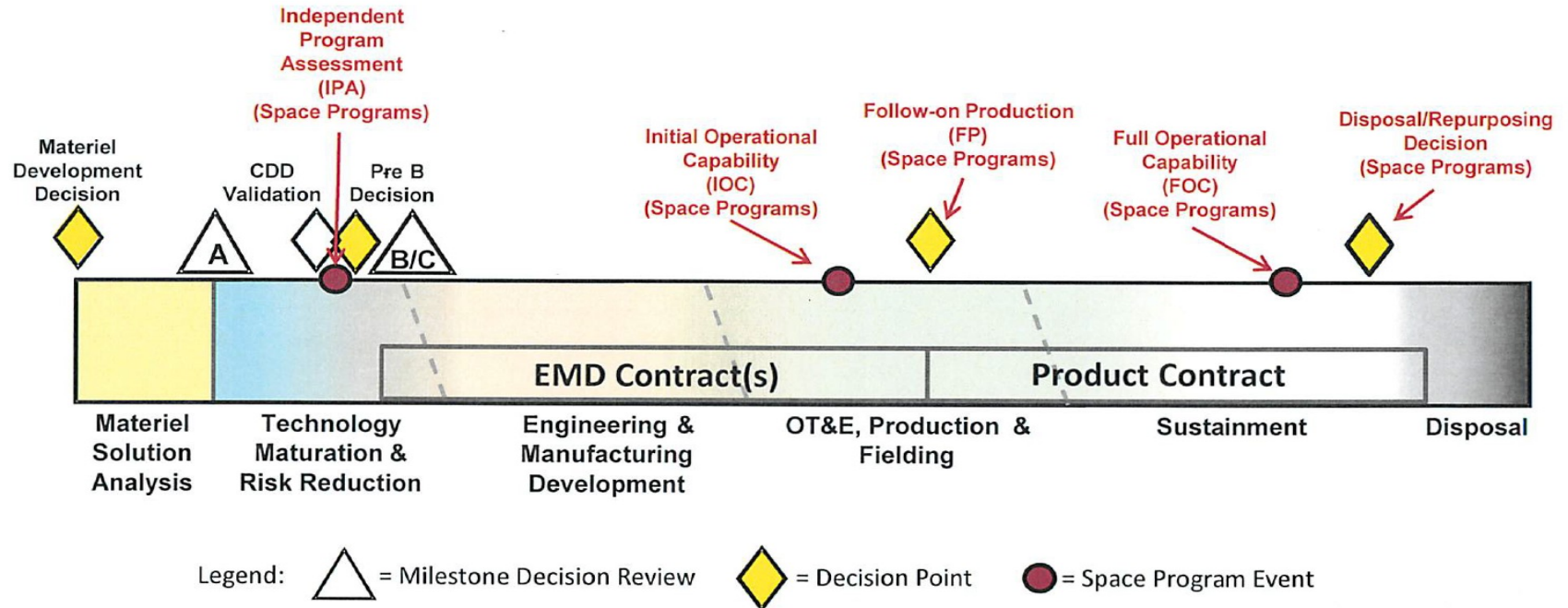
Model 1: Hardware

Rt: .6"
Bottom: 1.7

- ... model of a hardware intensive development program such as a major weapons platform
- This is the “classic” model that has existed in some form in all previous editions of this instruction
- It is the starting point for most military weapon systems; however, these products almost always contain software development resulting in some form of Hybrid Model A

Model 1: Hardware Intensive Program

Space Acquisition Model: High-Cost Low-Volume Program



- Space-based systems (satellite = payload + bus) MAY be tailored to use this model
- Other space system types (ground-based systems, satellite launch vehicle systems, and user equipment) MAY use other models

Implementation of Interim DoDI 5000.02

for Space Systems Acquisition
Interim DoDI 5000.02 addresses space
systems in a couple areas:

2) Pages 54-55, there are two unique information requirements for space programs

- **Orbital Debris Mitigation Risk Report** (Regulatory—compiled during TMRR)
 - PMs must implement orbital debris mitigation
 - Orbital debris must be considered early to impact design
 - Include assessment of debris generation risk during launch, on-orbit operations, and end-of-life disposal
 - Submit report (in accordance with DoDI 3100.12) as part of Post System Functional Review
- **Post System Functional Review Report** (Regulatory—completed during TMRR)

DAG Space Acquisition Chapter Seven Sections

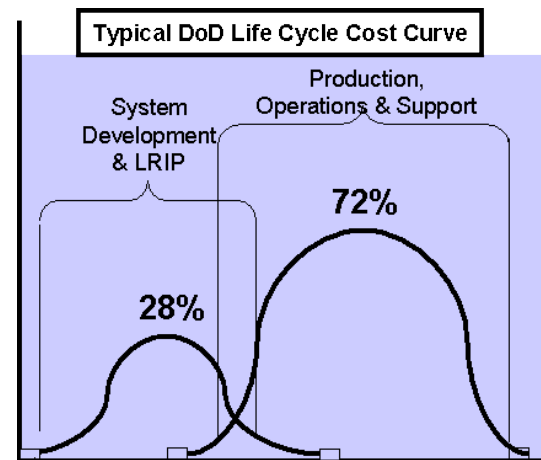
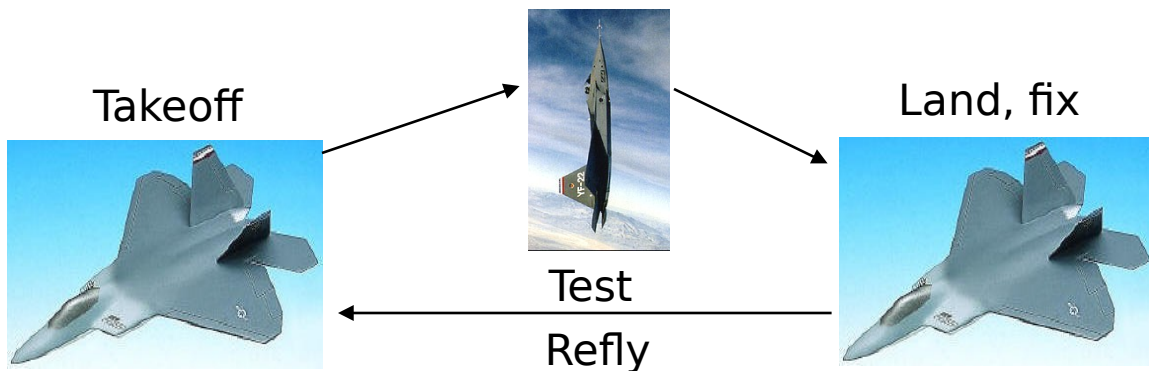
- 1. Introduction—unique and critical nature of space systems**
- 2. Space Systems Acquisition Programs—program types and tailoring**
- 3. Pre-Material Solution Analysis—tailoring**
- 4. Technology Maturation and Risk Reduction—tailoring**
- 5. Engineering and Manufacturing Development—tailoring**
- 6. Production and Deployment—tailoring**
- 7. Operations and Support—tailoring**

A separate Defense Acquisition Guidebook (DAG) Space Acquisition Chapter has been drafted to provide specific guidance for the acquisition of space systems. The release date is TBD.

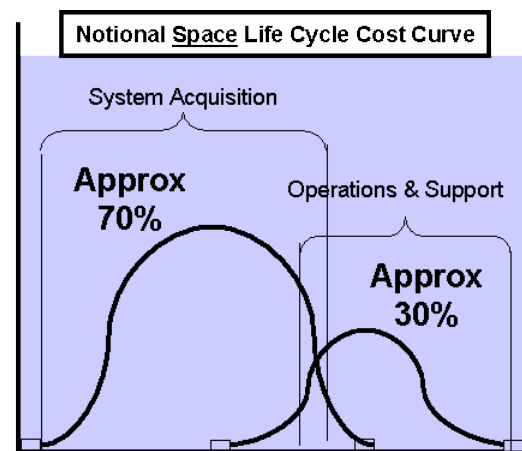
Introduction

Uniqueness of Space

Aircraft test, land, fix and reflly



Launch/leave for 10-15 yrs – perfect first time, every time



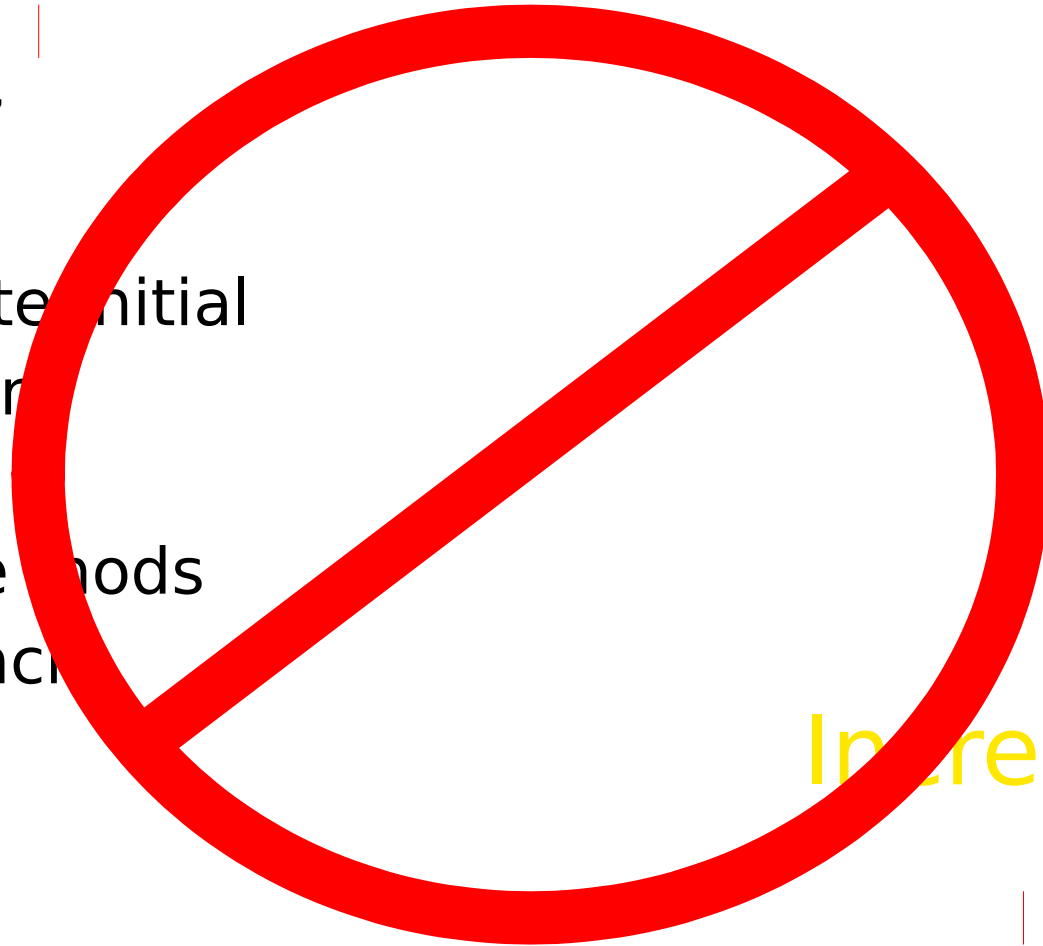
Introduction

Key Reasons for Tailoring

“Fly Offs”

Low Rate Initial
Production

Hardware mods
after launch



Increased Risk

Space Systems Acquisition Programs

Potential Acquisition Models

Space System Type	Examples	DoDI 5000.02 Program Model
Space-based systems	Satellites (payloads and Bus)	Tailored Model 1 – Hardware Intensive Program
Ground-based systems	Satellite command and control (C2), launch C2, ground station payload data processing stations, space surveillance stations, command and control systems	Model 2, 3, or 5 if software intensive
Satellite launch vehicle systems	Boosters, upper-stages, payload processing facilities, space launch facilities, ground support equipment	Tailored Model 1 – Hardware Intensive Program
User equipment	Hand-held user terminals, data reception terminals, user terminals	Standard High Quantity Model

Pre-Materiel Solution Analysis Space Mission Architecture

- **DoDD 5101.02E (DoD Executive Agent for Space)**
 - Defense space strategies, architectures, and programs are coherently developed...
 - **EA for Space responsible for architecture development, maintenance, and content**
- **Architectures—authoritative baseline used to judge investment, cost-benefit, resilience, operational, or acquisition decisions**
 - **As Is—space mission area at current time**
 - **To Be—space mission area expected to address gaps in Initial Capabilities Document (ICD)**
 - **Integral to deliberations of key acquisition decisions and milestone reviews**

Pre-Materiel Solution Analysis Survivability

- **DoDD 3100.10 (Space Policy)**
 - **Mitigate adversary's benefits of space system attack by enhancing resiliency and ensuring forces can operate effectively when space systems degraded**
- **Space Security and Defense Program (SSDP)**
 - **Assists program offices in developing solutions and evaluating mitigation approaches against projected threats**

Technology Maturation and Risk Reduction (TMRR)

System Functional Review (SFR)

- PMs conduct SFR during TMRR Phase to:
 - Ensure system's functional baseline is established
 - Ensure systems has reasonable expectation of satisfying Initial Capabilities Document (ICD) requirement within allocated budget and schedule
 - Term "SDR" (System Design Review) no longer used
 - PMs coordinate with SSDP to conduct independent vulnerability assessment of preliminary space system concept
 - PMs conduct Orbital Debris Mitigation Risk Assessment
 - PMs provide a Post-SFR report to the MDA:
 - Assessment of design maturity and summary
- An Independent Program Assessment (IPA) may support the Post-SFR Assessment*
- Independent vulnerability assessment and

Independent Program Assessment (IPA)

- **Independent Program Assessments (IPAs) are:**
 - **An independent, comprehensive, and systematic review of major space system managerial and technical progress**
 - **Designed to identify program cost, schedule, and performance risks; formulate risk mitigation plans; and provide feedback both to the PM and the Milestone Decision Authority (MDA)**
 - **May be combined with Program Status Reviews (PSR) to minimize multiple reviews**
- **An IPA is normally conducted:**
 - **Prior to Development RFP Release Decision**
 - **Prior to Follow-on Production Decision**
 - **Whenever directed**

Engineering & Manufacturing Development

- **Milestones B and C may be combined**
 - **Rationale—small quantities, front-loaded funding profile, first article operational**
- **If separate Milestone C is planned, normally conducted as soon as feasible after CDR (when space systems normally commit to “Low Rate Production”)**
 - **Described as Initial Production Review**
 - **Approval for procurement of long-lead items to support follow-on space systems should be considered at Milestone B**
 - **Authorizes acquisition-related activities associated with fabrication, integrated T&E, to include DT&E and OT&E, deployment (e.g. launch), and support of new space system**

Production and Deployment Phase

- MDA may conduct a **Follow-on Production Decision Review** in lieu of a full-rate production and deployment decision to authorize procurement of additional space system articles beyond those authorized at Milestone C
- MDA may direct In-Progress Review (IPR) after Milestone C, but prior to Follow-on Production Decision Review, to assess progress and determine if any additional actions are required
- An OSD Independent Cost Estimate (ICE) may be required to support a Follow-on Production Decision

Follow-On Increments

Material Development Decision (MDD)

All follow-on increments shall be preceded by a Materiel Development Decision (MDD) to:

- **Assess prior increment's progress**
- **Consider additional requirements for that increment**
- **Determine proper phase of entry for next increment**

Operations and Support Phase

- In addition to DoDI 5000.02 requirements, space systems shall be required to have acceptable performance in integrated T&E, to include DT&E, OT&E, and user acceptance of the system
- A Follow-on Production Decision Review may not be required as an entrance criteria if, for example, only one space system article is being acquired
- Disposal decision should include holistic review of potential post-mission life applications

Additional Information Related to Space Acquisition is Available at DAU's Space Acquisition Community of Practice
<https://acc.dau.mil/space>